

Total Maximum Daily Load (TMDL) Implementation:

Upper Rappahannock Basin



TMDL - 3 Primary Steps:

- ✓ TMDL development
- Implementation Plan development
- Implement the plan

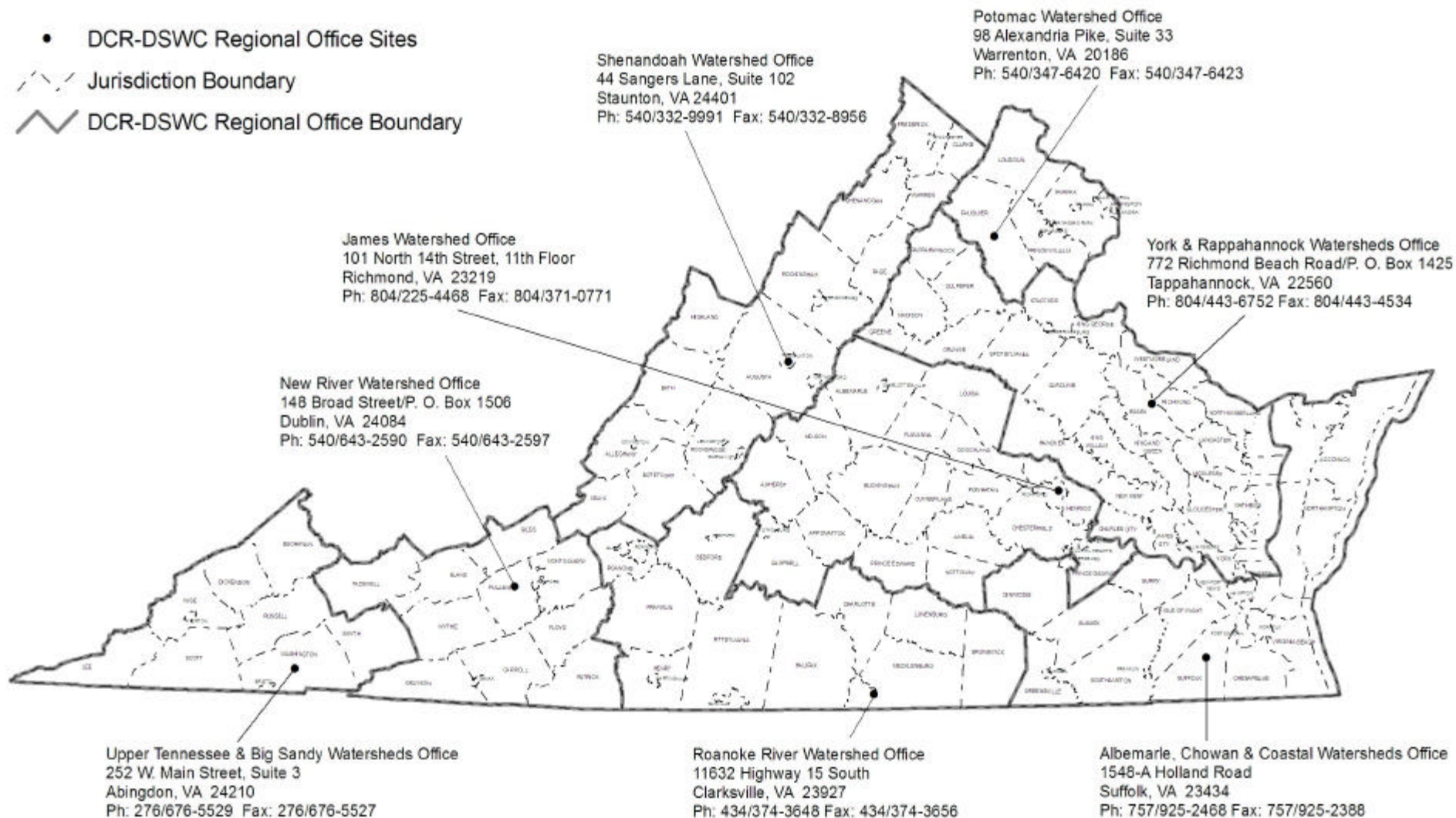


DCR-DSWC Regional Office Boundaries

- DCR-DSWC Regional Office Sites

--- Jurisdiction Boundary

— DCR-DSWC Regional Office Boundary

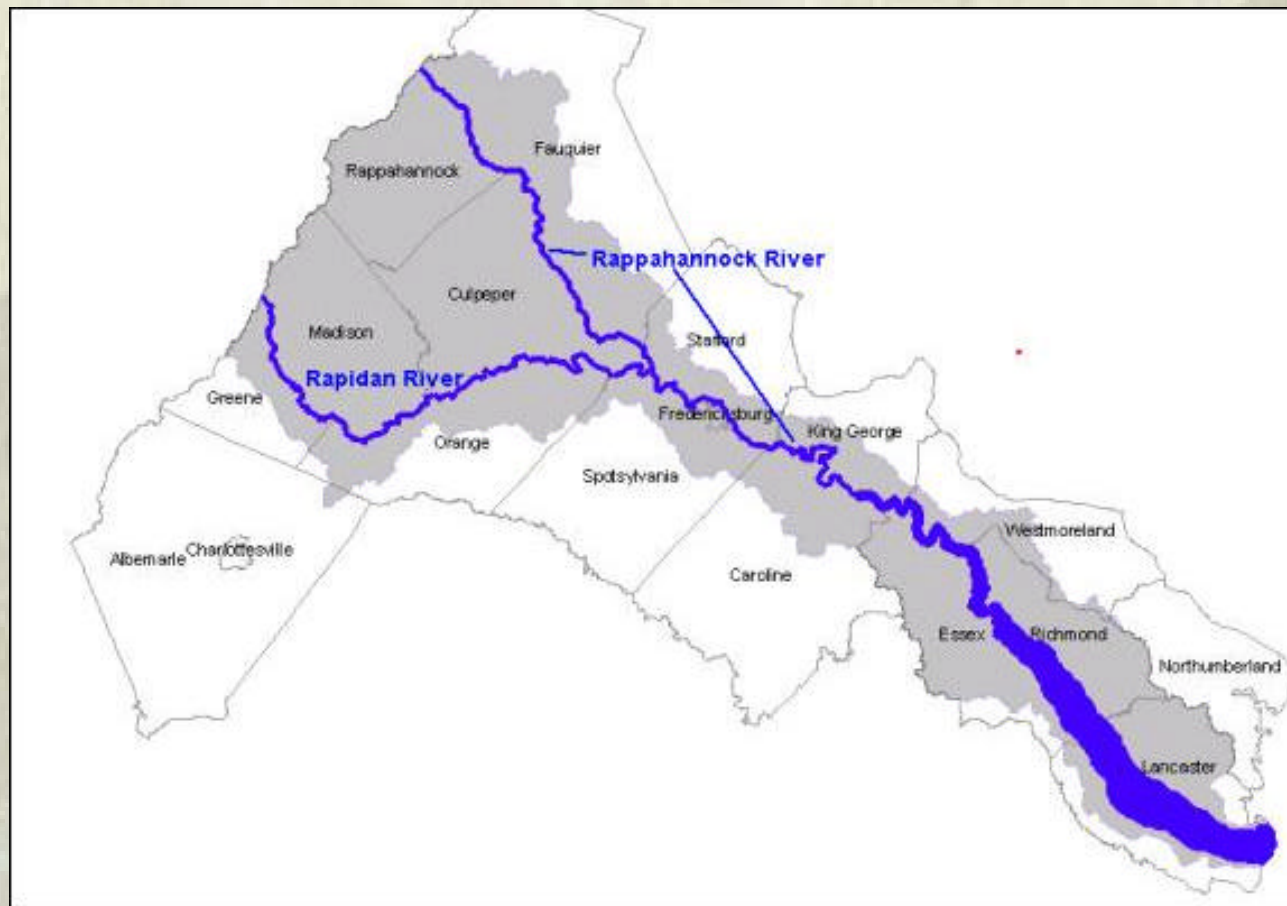


DATA SOURCES:
JURISDICTION BOUNDARY - VDCR
DCR-DSWC REGIONAL OFFICE BOUNDARY - VDCR

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Rappahannock River Basin



Rappahannock River Basin Sections



Implementation Plan Development

- Implementation Plan development is required by state legislation (WQMIRA, 1997)
- Currently Virginia has significantly more completed TMDLs than implementation plans



The Commonwealth of Virginia has established criteria to rank TMDLs for implementation plan development based on:

- **Location and Resource Priorities**
- **Reasonableness of Obtaining Load Allocations**
- **Implementation Support**

What can we do to reduce sources of bacteria now?

- Target ongoing implementation of BMPs (SWCDs, NRCS, etc)
- Identify and seek grant funding opportunities
- Identify opportunities in existing local programs
- Initiate public outreach activities
- Continue stream monitoring – DEQ, citizen monitoring
- Demonstrate interest to agencies



Best Management Practices to Address Nonpoint Source Bacteria

Residential/Urban

- Septic tank pumpout
- Septic system or straight pipe repair/replacement
- Alternative on-site septic systems
- Pet waste control
- Marina pump-out facilities
- Rain Gardens/ Stream Buffers



Picture: Barco Products

Best Management Practices to Address Nonpoint Source Bacteria

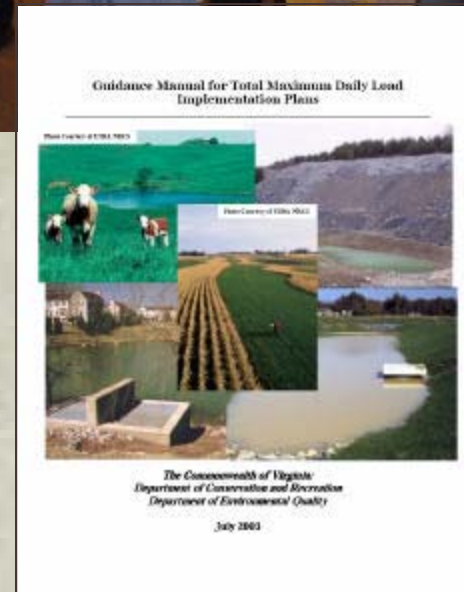
Agricultural

- Livestock exclusion
- Pasture management
- Riparian buffers
- Streambank stabilization
- Waste storage facilities



Implementation Plan Development

- Implementation Plan will be done locally
- Stakeholders will have the opportunity to participate in the plan development
- Steering Committee, Working Groups and Public Meetings

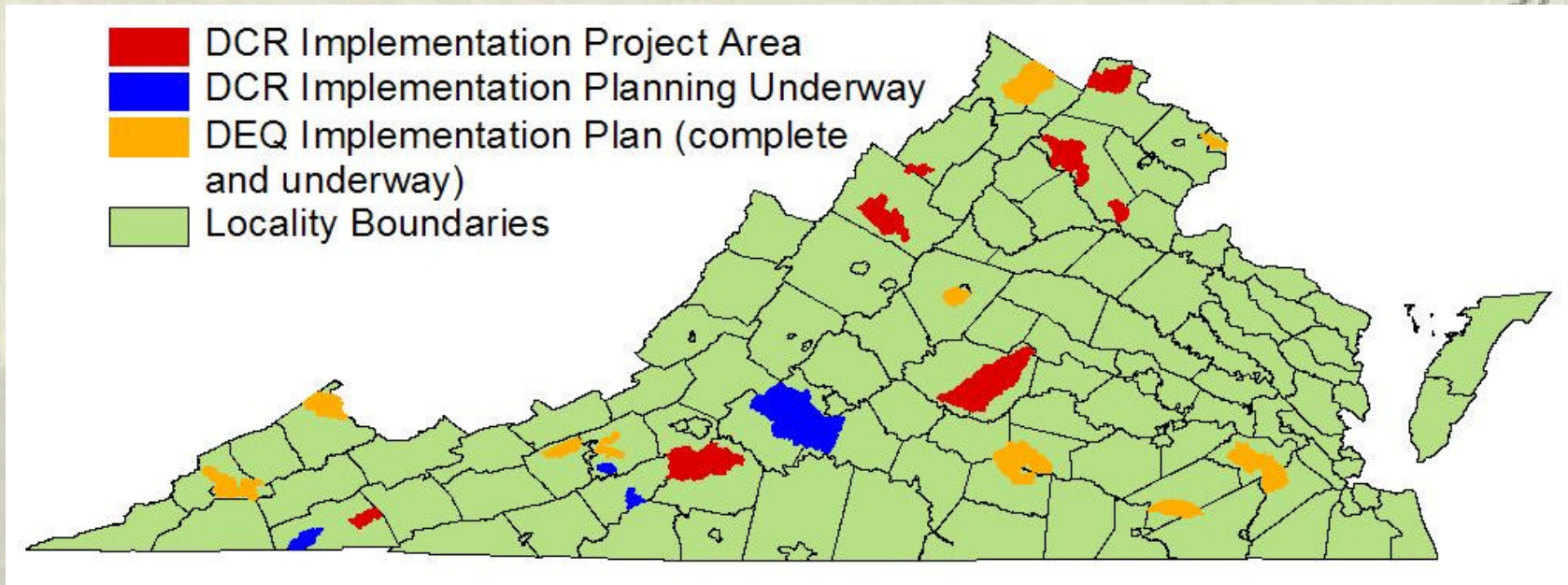


Integration with other Watershed Plans

- Multiple water quality programs and activities may be underway in an individual watershed
- Each has specific geographical boundaries and goals
- TMDL implementation will be coordinated with other water quality plans, such as:
 - Watershed plans/roundtables
 - Local Comprehensive Plans
 - Water Supply Plans



Implementation in Virginia



Virginia has completed 17 IPs with 5 IPs currently under development

Current Implementation Projects administered by DCR (12):

- **Middle Fork Holston River: Washington County, 2001**
- **Blackwater River: Franklin County, 2001**
- **North River: Rockingham County, 2001**
- **Holman's Creek: Shenandoah County, 2004**
- **Catoctin Creek: Loudoun County, 2004**
- **Willis River: Cumberland and Buckingham Counties, 2005**
- **Lower Blackwater River, Maggodee Creek and Gills Creek, Franklin County, 2006**
- **Cooks Creek and Blacks Run: Rockingham County and Harrisonburg, 2006**
- **Thumb, Deep, Carter, Great Runs: Fauquier County, 2006**

Implementation Efforts in Virginia

- Currently 12 implementation projects underway in Virginia
- Funding has been provided for staff to conduct outreach and get BMPs on the ground
- 3 pilot projects (2001-2006)
 - ~Middle Fork Holston (Washington Co)
 - ~Blackwater River (Franklin County)
 - ~North River (Rockingham County)

North River TMDL Implementation Project

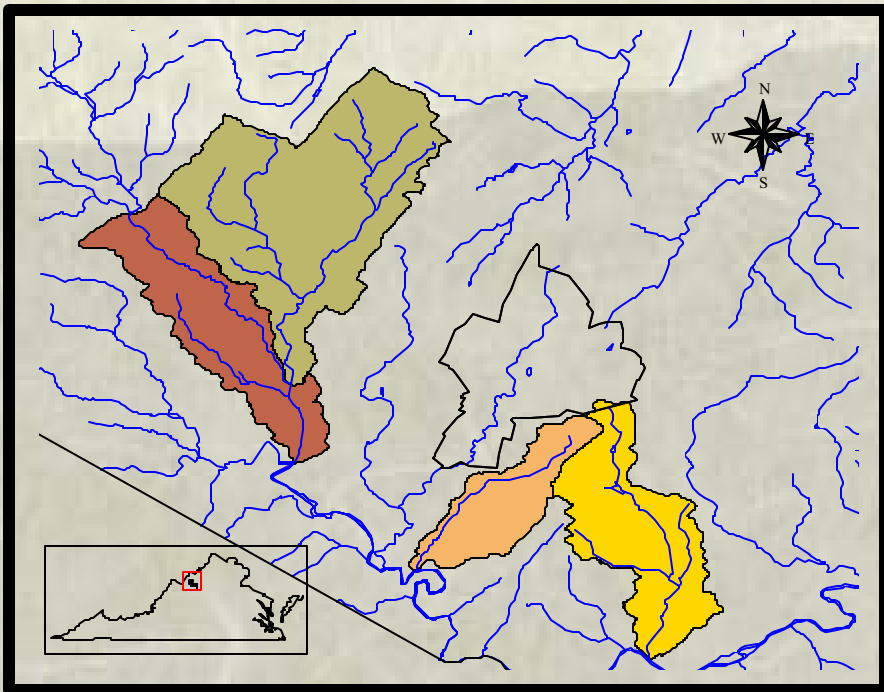
~Virginia's first implementation project

~Impairments:

- Fecal coliform
- Benthic
- Nitrate public drinking water

~3 meetings held for TMDL development in 1998: 85, 250, 140 people attending

~Over 1,100 staff hours dedicated to attending meetings for implementation plan



North River Implementation Goals

~Approximately 116 miles of exclusion fencing



~5,154 acres of cover crops

~44 septic systems

~Estimated total cost = \$12.11 million



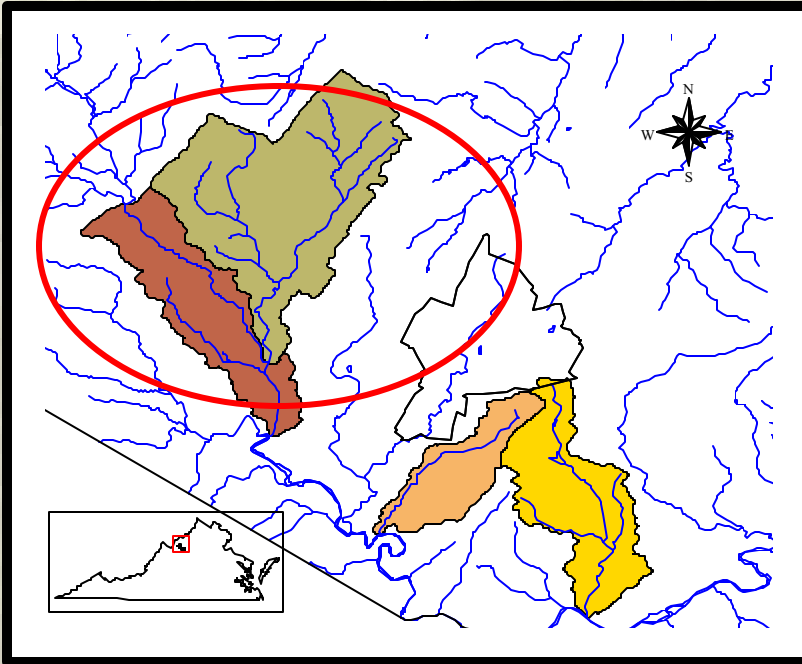
5 Years Later

~Muddy Creek and Lower Dry River featured in statewide success story

~8.3 miles of voluntary stream fencing installed in Muddy Creek and Lower Dry River

~21 septic system repairs and replacements

~Lower Dry River being considered for de-listing



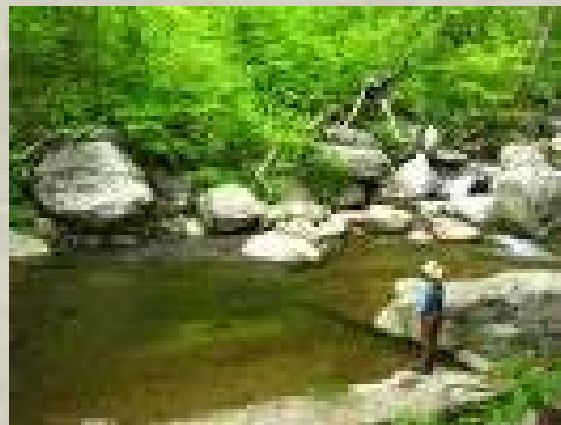
Potential Funding Sources

Potential funding sources for best management practices (BMPs) identified in Implementation Plan:

- **EPA Section 319 Funds**
- **Water Quality Improvement Fund projects**
- **USDA Programs - CREP/EQIP**
- **EPA Grants**
- **State Revolving Loan Funds**
- **State Cost-Share Program**
- **State Tax Credit Program**
- **Southeast Rural Community Assistance Project**
- **National Fish & Wildlife Foundation Grants**
- **And others...**

One last point to remember

TMDL's and IP's are a mechanism for restoring water quality and are an opportunity for diverse groups of people to come together to improve watershed health



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IPs available at www.deq.virginia.gov/tmdl

